LANGUAGE ACQUISITION THEORIES AND SECOND-LANGUAGE TEACHING

Shoichi Ono

I. Introduction

As is already known, the so-called audio-lingual method of second-language teaching has had a profound influence on second-language instruction. The basic concept of the method is that language is composed of patterns and that second-language learning is "basically a mechanical process of habit formation".[1] Therefore, it is claimed that a second language is learned through constant repetition and reinforcement, and the mim-mem and the pattern practice have been developed for this purpose. Another important concept of the audio-lingual approach is the idea of contrast, which has resulted from the belief that the familiar patterns of the learner's mother tongue tends to interfere with the new set of habits to be acquired. From this point of view, the learner's difficulties can be predicted if contrastive studies of the learner's mother tongue and his target language are made, because the learner makes mistakes not at the place where the native language and the foreign language function in the same way, but at the place where two languages differ.[2] Thus, Fries argues for the importance of contrastive analysis for material development,[3] and Lado, putting more emphasis on this point, went so far as to say that "it will soon be considered quite out of date to begin writing a textbook without having previously compared the two systems involved."[4] In this way the contrastive analysis is regarded by those who advocate the audio-lingual theory as essential to the material development.

Partly because of the claim that the audio-lingual approach is a scientific approach based on the theories and findings of linguistics and psychology, and partly because of the success of the Army Specialized Training Program (ASTP) and other intensive language programs in the United States, the audio-lingual approach has come to be supported by those second-language teachers who were dissatisfied with the results of grammar-translation methods. The approach was indeed regarded as so effective that we find the following remark: "The oral approach, reinforced by the uses of audio-visual aids such as tape-recorder, is the only successful path to solution of the problems of second-language teaching."[5]

The audio-lingual approach thus seemed to bring with it a rosy future of second-language instruction. However, the success of the ASTP mentioned above was, according to Roberts, neither due to the "effective" materials nor to the "scientific" teaching method. He says, "If you put a bright soldier into a room with a native speaker of Japanese and keep them there eight hours a day for eighteen months, the soldier will learn quite a lot of Japanese, even if his text is just a Japanese translation of Cicero and his instructor is a nitwit."[6]

Moreover, recent developments in linguistics and psychological theories have disturbing influences on the second-language teachers who believe in the audio-lingual method. The structural linguistics which dominated the linguistic world for the past two decades and on which the audio-lingual approach claims to depend for its linguistic theory is now under severe attack from the generative transformational grammar; and Skinnerian behaviorism, on which the approach is supposed to depend for its psychological theory, is also challenged by nativism. In other words, the audio-lingual approach is being shaken in its theoretical foundations. The pendulum of second-language teaching, which has swung in the structure-oriented direction, is now swinging back in the opposite direction. Some teachers now advocate the cognitive code-learning theory (which Carroll calls a modified up-to-date grammar-translation method) and suggest that we should attach more importance to the learner's understanding than to his facility in using the structures, because "provided the student has a proper degree of cognitive control over the structures of the language, facility will develop automatically with the use of the language in meaningful situations."[7]

In order to discuss second-language instruction, therefore, it is necessary to throw some light on the contending views of linguistics and psychology in relation to second-language learning and teaching.

II. Empiricism vs. Nativism

The audio-lingual method claims that it is soundly based on psychological theory.[8] The psychology referred to is the one advocated by Skinner. This version of psychology claims that verbal behavior does not differ in any fundamental respect from non-verbal behavior; that is, verbal behavior consists of stimulus-response associations which are strengthened by reinforcement. The basic process of language acquisition by behaviorists is well summarized in the following passage.[9]

> "The child associates the sounds of the human voice with need-satisfying circumstances ; when he hears his own random babbling, these sounds are recognized to be similar to those uttered by the adults so that the pleasure or anticipation of pleasure associated with mother's voice is now trans-

> ferred to his own vocalizations. Thus, hearing his own sounds becomes a pleasurable experience in itself, the more so as mother tends to reinforce these sounds, particularly if they by any chance resemble a word such as *Dada*. This induces a qualitative increase in the infant's vocal output. Soon he will learn that approximating adult speech patterns, i. e., imitating, is generally reinforced, and this is thought to put him on his way toward adult forms of language."

Chomsky criticizes the behavioristic view in his *Review of Skinner's Verbal Behavior*, saying that the theory is vague and arbitrary since it is based on the notions like 'stimulus,' 'response,' and 'reinforcement,' though they are relatively well defined with respect to the bar-pressing experiments and others similarly restricted.[10] As far as acquisition of language is concerned, it is doubtful whether the theory formulated from observations and experiments of animals can be applicable to the explanation of the linguistic behavior of human beings. Human language has creativity as its essential feature, and it is this creative aspect that makes any version of a stimulus-response (S-R) model of language acquisition inadequate. It is this characteristic that distinguishes human language from animal behavior. If human language consisted of closed systems, it would be possible to learn it entirely through S-R models. Newmark says in this connection that if each linguistic rule had to be taught and acquired as if it were additive and linear, "the child learner would be old before he could say a simple appropriate thing and the adult learner would be dead."[11]

As far as the theories of language acquisition are concerned, therefore, there are at least two contending views: empirical and nativistic. Let us have a glance at them.[12] Empiricism claims that (1) no linguistic structure is innately specified, and the child starts from scratch, (2) language is learned entirely through experience and the child learns it through imitation, repetition, and reinforcement, and (3) the child is born with no special capacity for language but only with a general ability to learn. Nativism, on the other hand, maintains that (1) language is innately specified almost in its entirety, and the child has only to "put flesh on the skeletal linguistic system he already possesses," (2) the function of linguistic experience is to activate the capacity with which a child is born, and (3) there is, in addition to general intelligence, a special inborn capacity for language. The conventional view of language acquisition is the empirical one, and the main procedures involved here are trial-error, rote memory, imitation, association, and analogy. The empiricist does not postulate innate abilities for language, but insists that "the child selects out some of the sounds and sound-sequences that it has noticed in its own vicinity and imitates those, practising and repeating and imitating his own efforts until a semi-deliberate control of speech production gradually becomes more and more automatic."[13]

However, this view of language acquisition does not account for how the child constructs

novel sentences or how he masters abstract relationships from the primary linguistic data which may contain not only well-formed sentences but non-sentences. The empiricist claims that novel sentences are constructed by analogy from sentences previously experienced, but "this claim is of little use unless one can make explicit how a learner selects precisely the correct analogy."[14] As for imitation, which also plays a vital role in language acquisition by the S-R model, it does not seem to have so great a role for the nativist. It is true that the child imitates the speech of the adult, but this does not necessarily lead to the conclusion that the process of language acquisition is imitation. According to McNeill, the child is a poor imitator,[15] and Lenneberg also gives some examples to show how poorly the child imitates the adult's speech.[16] If the child is poor in imitating the adult's speech, "imitation loses its status as a special process and becomes simply one of the ways in which the child exhibits and expands his rule-forming capacity in language."[17] Therefore, we cannot depend so much on the empirical view for the adequate explanation of language acquisition.

According to nativists, the child has a language acquisition device (LAD), which enables him to develop and represent internally a generative grammar on the basis of observations of what Chomsky calls primary linguistic data. The data "must include examples of linguistic performance that are taken to be well-formed sentences, and may include also examples designated as non-sentences."[18] Therefore, if the child does not have a language acquisition device, one wonders how it is possible to acquire linguistic competence on the basis of indirect and fragmentary input at the age when he is not yet capable of logical or analytical thinking.

Suppose we postulate some kind of language acquisition device. Next comes the question of whether we should accept the linguistically-oriented theory or the cognitive-theory. McNeill claims that a theory about LAD is a theory about children, and both LAD and the child develop a grammar on the basis of some kind of internal structure.[19] In other words, the child must acquire a generative transformational grammar. Slobin, on the other hand, claims that general cognitive and mental development is responsible for language acquisition. According to him, ".... strictly *linguistic* acquisition is completed by age three or so. Further development may reflect lifting of performance restrictions and general cognitive growth, without adding anything basically new to the fundamental structures of syntactic competence."[20] There are even more stronger claims for a cognitive theory of language acquisition. Schlesinger and Sinclaire-de-zwart, for example, are among them, but McNeill maintains that the claims by the cognitive theorists are premature because no empirical evidence exists to confirm their claims.[21] It is important to note, however, that linguistically-oriented acquisition theories are concerned with the ideal hearer-speaker. With the "ideal" child, his performance

(i. e., the actual use of language in concrete situations) is a direct reflection of competence (i. e., the speaker-hearer's knowledge of his language). However, in actual situations, we know performance is affected by various physical and psychological factors. That is why even a native speaker frequently makes erros when he talks in his native language.

Since the linguist's primary concern is to account for the development of abstract and idealized linguistic competence, it is natural for him to disregard several facts about language behavior as irrelevant to the formulation of his theories. But as second-language teaching is very much interested in the actual verbal behavior, the teacher cannot ignore such things as individual differences in cognition, emotion, memory limitation, and other factors which may influence performance. This is indeed what makes language teaching very much complicated and difficult, and this is what the language teacher must necessarily take into consideration in his daily teaching.

III. First-Language Acquisition vs. Second-Language Learning

As we have seen, there have been great changes and wide differences in the theory of first-language acquisition. We now turn our attention to second-language learning.

The first question is whether the adult learns a second language in the same way that he acquires his first language in his childhood. It is claimed that a second language constitutes a very different task from learning the first language.[22] According to this view, the most essential difference lies in the simple fact that when we learn a second language we already have a command of one linguistic code, and this very fact can be both a help and hindrance in learning a second language.[23] Another difference of importance is the age of the learner. Children learn their first (and sometimes a second or third) language with ease, while adults learn their second language with difficulty. Some people claim that the younger the learner is, the more readily he seems to acquire a command of second languages.[24] The reason for this, according to Brooks, is that the child has muscular and neural plasticity that permits him more readily to adopt the new speech habits, while the older learner no longer has the muscular resilience of childhood. [25] Hall also gives the same reason as to why the child learns a new language with relative ease "before puberty and adulthood."[26] These claims seem to be related to Penfield's, who developed a theory based on his physiological research on the human brain. Mackey explains Penfield's theory briefly like this: "before the age of nine, the child brain seems particularly well suited for language learning. But this capacity decreases with the years, as the speech areas become 'progressively stiff'."[27]

The critical point to note is whether the capacity for language aqcuisition, which enables

the child to acquire his native language, is still available or is lost in adulthood. Newmark and Reibel disagree with Penfield, saying that "the same language learning capability exists in both child and adult, quite possibly in different degrees."[28] However, Lenneberg suggests from evidence of the effects of brain damage on linguistic abilities that the primary development of language comes to an end sometime around puberty.[29] Langacker has much the same opinion and says that "the onset of adolescence does seem to constitute some sort of dividing line in the ability to master a new linguistic system."[30] Bolinger argues that "if the theory of linguistic instinct is correct, the instinct apparently blooms and fades quickly."[31] Saporta points out that an important difference exists between the child and the adult, adding that "what makes second language learning a problem is the fact that whatever ability, presumably innate, that the child has which permits him to perform the feat is apparently lost as he matures."[32] Taking these into account, we could boil down the opinions into this: whatever ability helps the child acquire his first language appears to decrease sometime after puberty or in adulthood. If this is true, we may postulate that the adult and the child are both quantitatively and qualitatively different learners in that the innate capacity which enables the child to acquire his first language is not very active or is practically lost in adulthood.

IV. Learning a Second Language

Human languages have much in common and also differ from one another on many specific details.[33] When it comes to learning a second language, the learner has to master at least all these specific details. He has to learn the phonological and grammatical rules that are arbitrarily established in the second language, otherwise he cannot communicate in it. Here learning, not innate ability, seems to play a very important role, since these rules are not universal but idiosyncratic to each language. The native speaker somehow internalizes such specific properties of the language, but the second-language learner must learn them through practice. If we want to learn, for example, English as a second language, we must learn that *sugar*, for instance, has the feature <−count> and that the sentence **There are many sugars* is ungrammatical. We must know that the past form of *play* is *played*, while that of *go* is not **goed* but *went*. We say *a friend of mine* instead of **my a friend*. We must be aware that *John is easy to please* is different in deep structure from *John is eager to please*. We must learn that the passive transformation cannot be applied to *John resembles his mother*, and so on. Indeed, besides learning to use different words and their syntactic features, the speaker of different languages must learn to use different sets of transformational rules. This explains why the speakers of different languages have difficulty in communicating with each other. The child

somehow learns how to convert his interminable thoughts into an infinite number of actual sentences which are not only grammatical but also acceptable. And this is what a second-language learner must learn to do in order to master a new language.

What, then, can the theories of linguistics or psychology offer to improve the present situations of language teaching? Chomsky claimed that neither linguistics nor psychology had progressed far enough to provide a basis for a theory of language teaching.[34] Lamendella points out that transformational grammar or any theory of linguistic description is irrelevant to either second-language pedagogy or a theory of language acquisition.[35] Jakobovits rejects pattern drills in favor of "transformation exercises," because he believes that imitation, practice, reinforcement, and generalization are no longer theoretically productive conceptions in language acquisition.[36] Brown, on the other hand, defends pattern practice, saying that intense oral practice is necessary to overcome influences from native language structure.[37] Ney advocates the importance of conditioning for second-language learning because "it could give the student control of the surface forms of the target language."[38] Newmark and Reibel assert that "presentation of the particular instances of language in contexts which exemplify their meaning and use is both sufficient and necessary" for successful second-language learning.[39] Oller, Jr. also favors the language use and says "the communicative function of language is an essential point of concern for any theory of second-language learning which aims at adequacy."[40] Spolsky argues that the social role of language cannot be overlooked in the development of a theory of second-language learning.[41] Kandiah, though admitting that the transformational model provides the language teacher with insight into the language, points out that it is the teacher's "onus to develop a methodology that will enable him to maximally exploit the resources of the theory."[42] Politzer suggests that a great deal of attention should be paid to such variables as class differences, the time of meeting of the class, the degree of eagerness or tiredness of the student, etc.[43]

Although the opinions cited above show very wide diversity, it seems that these contending views and opinions are not mutually exclusive but complementary when they are examined from the standpoint of second-language teaching. That is to say, habit-formation, rule-internalization, language use in real-life contexts, etc., has each an important role to play in successful second-language teaching.

V. Some Problems Affecting Second-Language Teaching

Let me conclude by pointing out some problems which deserve very careful attention in second-language instruction. First, our typical second-language learner has passed the "opti-

mum" age for language learning, and already possesses his native language. It is, therefore, natural for him to learn a second language through his first language, and this fact itself can serve to facilitate or interfere with the learning of a new language. Hence the importance of contrastive analysis. It is interesting to note that a parrot that learns Russian phrases from a Russian speaker and then learns English phrases from an English speaker will not speak English with a Russian accent.[44] However, a human being who learns a second language after puberty will invariably speak it with a noticeable accent, simply because he has learned the whole phonemic system of his first language, not merely a sequence of phones as a parrot does. There are pros and cons for planning teaching materials based on the findings of contrastive analysis. Moreover, there are three versions of contrastive analysis hypothesis depending on the implications of the hypothesis in second-language teaching: the strong version advocated by Lado and his followers, the weak one by Newmark and his colleagues, and a moderate one by Oller, Jr. and others.[45] Whichever version it may be that we advocate, we must admit that there exists the phenomenon of interference from the first language and that we need to ask for the help of the contrastive analysis in order to cope with the problem of interference. One thing to remember, however, is that so far most contrastive analyses are designed to reveal different surface structures between the first and the second language. Because surface similarities and differences often conceal deep similarities and differences, it is important to deal with deep structure as well. Also, the differences between the two languages concerned should be carefully explained to the students as the cognitive code-learning theory suggests, so that they may acquire a conscious control of the target language structures before they can use them in real-life situations.

Secondly, the adult has the advantage of being able to make deductive use of complex and abstract grammatical rules. It is claimed that the child manages to acquire a system of rules through LAD. The adult, however, seems unable to depend on it for learning a new language. And yet one of the main aims of second-language learning is to accomplish the same kind of automatic control of certain structural and lexical characteristics of a language system and the same kind of internalization of phonological and grammatical rules as does the child. We have already accepted the assumption that a language is more than a system of habits. To be more specific, we regard language as consisting of two components: specific habits and rules. Therefore it follows that habit-formation drills are necessary but they are not sufficient by themselves. The same can be true of learning rules. In order to communicate in a second language, therefore, not only the manipulation of specific structures but also the internalization of rules are necessary. Manipulation skill can be accomplished through drills, while rule-

internalization seems to presuppose understanding the deep structure of sentences which underlies the observable surface structure. It is here that the transformational grammar seems to be able to make significant contributions to second-language learning since it helps the learner to have insight into linguistic competence—the abilities to make judgement about grammaticality, deviancy, synonymy, or ambiguity of given sentences. The adult can acquire these kinds of knowledge through deductive learning. If the learner learns the rules of a language, we can expect him to tell whether a certain rule can be applied to a given string of words. For example he knows why *He resembles his father* cannot be converted into a passive sentence. To acquire such abilities practice with understanding seems essential.

Thirdly, we should maintain an adequate balance between manipulation of language structure and actual use of language in contexts. Brooks argues that manipulation skills should be acquired through pattern practice, which, "contrary to dialogue, makes no pretence of being communication."[46] In other words, the audio-lingual approach tends to overemphasize mechanical drills often at the expense of meaning and communication. It often happens, therefore, that the memorized patterns and sentences are not transferable to contexts other than that in which they have been learned. In order to avoid this inflexibility, Rivers suggests that students must be trained in communication situations.[47] Oller, Jr. and Obrecht also show that "the mechanical manipulation of structure is best learned in the context of communication."[48] These are not at all new suggestions, because the oral approach has already suggested that practice should end with the language use in real-life communication situations. We are indeed at a loss how to bring up the student from the manipulation phase to the communication phase and how to prepare teaching materials for this purpose. If the prepared material is based on structural grading, the naturalness of the situation or context is inevitably impaired, while, on the other hand, if the material is so organized as to maintain situational appropriateness, it tends to contain too many grammatical features to learn at a time. It may be inevitable to put more emphasis on the mastery of structural features at the beginning stage, but the emphasis should gradually be shifted from the mastery of language structure to language use. And a teaching program of any level, even at the very beginning stage, should be so prepared as to provide the learner with practice with understanding and language use in meaningful contexts.

A fourth problem concerns individual differences because language learning is affected by such factors as variations in general intelligence, experiences, motivations, attitudes, etc. As far as the first-language acquisition is concerned, it is argued that it is not directly tied to intelligence since language is peculiar to our species.[49] We know that bright children, av-

erage children, and stupid children all learn to talk perfectly well. However, when it comes to second-language learning, we notice that there is a wide difference in the level of proficiency attained by the learners. Some speak a second language as fluently as the native speaker, while some struggle to make themselves understood in it. Several factors seem to be responsible for this phenomenon. For example, second-language learning, unlike the first-language acquisition, seems, to some extent, to be related to general intelligence. We know from experience that the student with very low IQ is slow in learning a second language (he may be poor in other aspects involving learning, too.) Another factor that we have to take into consideration is attitude. Lambert argues on the basis of his research that students with an "integrative orientation" were more successful in learning a second language than those with "instrumental orientation."[50] Spolsky reached the same conclusion, and says "a person learns a language better when he wants to be a member of the group speaking that language."[51] Aptitude, too, seems to be an important factor. Some people claim that the audio-lingual method is most helpful for younger children and the average and weaker students, and that it is not so helpful to the most gifted because they "become bored long before the other students have had enough repetitive practice to develop firm habits of correct structural associations,"[52] Politzer claims that the audio-lingual approach is less helpful to those with strong visual modality preference.[53] In this way students show so great a difference that we cannot neglect the importance of the role played by each individual in his learning of a second language. And this seems to be in line with the recent trend in psychology and language learning.

Lastly, it should be pointed out that a glance at the history of second-language teaching shows that there is a tendency of leaping from one extreme to another, disregarding all the possible approaches lying in between. If we pay attention to the complexity of the problems involved in second-language teaching, however, we know the eclectic approaches in between do deserve special consideration in actual teaching, because our method is eventually dependent on the teacher, the learner, the teching material, and various environmental factors which we have discussed.

NOTES

1) Wilga Rivers, The Psychologist and the Foreign Language Teacher (Chicago: University of Chicago Press, 1964), p. 19.

2) Yao Shen, "Are you Missing a Contrast ?" Selected Articles from Language Learning, Series I, 1953, pp. 40-41.
See also William F. Mackey, Language Teaching Analysis (London: Longmans, Green & Co Ltd, 1965), p. 109. "If he (i. e., the learner) is learning to speak the language, the deeply ingrained patterns of his

first language will interfere with those of the language he is learning....On the other hand, if he is learning simply to understand the language, the greater the similarity between the first language and the second, the easier the latter will be to understand. In using the language, however, it is the similarity that may cause interference by the misuse of such things as *location* in French and English."

3) Charles C. Fries, Teaching and Learning English as a Foreign Language (Ann Arbor: University of Michigan Press, 1945).

4) Robert Lado, Linguistics Across Cultures (Ann Arbor: University of Michigan Press, 1957), p. 3.

5) Robert Hall, Introductory Linguistics (New York: Chilton Books, 1964), p.455.

6) Paul Roberts, "Foreword" to A Linguistic Reader (ed.) Graham Wilson (New York: Harper and Row, 1967), p. xxvii.

7) John B. Carroll, "The Contributions of Psychological Theory and Educational Research to the Teaching of Foreign Language," MLJ, Vol. 49, No. 5, 1965, p. 278.

8) Rivers, op. cit., p. 7.
See also Carroll, op. cit., p. 28. "…neither the audio-lingual habit theory nor the cognitive code-learning theory is closely linked to any contemporary psychological theory of learning. The audio-lingual habit theory has a vague resembrance to an early version of a Thorndikean association theory, while the cognitive code-learning theory is reminiscent of certain contemporary Gestalist movements in psychology which emphasizes the importance of perceiving the 'structure' of what is to be learned, without really relying on such movements."

9) Eric H. Lenneberg, "The Capacity for Language Acquisition." In Lester (ed.) Readings in Applied Transformational Grammar (New York: Holt, Rinehart and Winston, 1970), p. 91.

10) Noam Chomsky, "Review of Skinner's Verbal Behavior." Language, Vol. 35, No. 1, 1959, pp. 26-58.

11) Leonard Newmark, "How not to Interfere with Language Learning." In Lester, op. cit., p. 222.

12) The discussion is based on Ronald W. Langacker, Language and Its Structure (New York: Harcourt, Brace & World, 1967), pp.235-240.
Jakobovits differentiates the two approaches to language acquisition like this: Empirical approach: (1) The burden of language acquisition was placed on the enviornment. The child was merely a passive organism responsive to the reinforcement conditions arranged by agencies in the environment. (2) The process of acquisition was from surface to base. Now Approach: (1) The burden of acquisition is placed on the child with relatively minor importance attached to the environment as a *reinforcing* agency. (2) The process of acquisition is from base to surface. (LL, Vol. 28, Nos. 1-2, 1968, pp. 90-91.)

13) M. A. K. Halliday, et. al., The Linguistic Sciences and Language Teaching (Bloomington: Indiana University Press, 1964), p. 179.

14) Sol Saporta, "Applied Linguistics and Generative Grammar." In Albert Valdman (ed.) Trends in Language Teaching (New York: McGraw-Hill, 1966).

15) David McNeill, The Acquisition of Language: The Study of Developmental Psycholinguistics (New York: Harper & Row, 1970), p.106. To show what a poor imitator the child is, McNeill gives the following examples:

Child	Nobody don't like me
Mother	No, say "nobody likes me"
Child	Nobody don't like me
	(eight repetitions of this dialogue)
Mother	No, now listen carefully; say "nobody likes me"
Child	Oh ! Nobody don't likes me

16) Lenneberg also gives some examples to show that the child almost never repeats the adult's speech:

Model Sentences	Child's Repetition
Johnny is a good boy	Johnny is good boy
He takes them for a walk	He take them to the walk
Lassie does not like the water	He no like the water
Does Johnny want a cat?	Johnny want a cat?

(Biological Foundations of Language, New York: Wiley, 1967), p.316.

17) James Deese, Psycholinguistics (Boston: Allyn and Bacon, 1970), p. 73.

18) Noam Chomsky, Aspects of the Theory of Syntax (Cambridge: M. I. T. Press, 1965), p.25.

19) McNeill, op. cit., p. 71.

20) D. I. Slobin, "The Acquisition of Russian as a Native Language" In Smith and Miller (eds.) The Genesis of Language (Cambridge: M. I. T. Press, 1966).

21) McNeill, op. cit., p. 75.

22) Charles C. Fries, "Foreword" to Lado's Linguistics Across Cultures, 1956.

23) Nelson Brooks, Language and Language Learning: Theory and Practice (2nd rev., New York: Harcourt, Brace & World, 1964), p. 22.

24) Halliday, et. al., op. cit., p. 260.

25) Ibid., p. 58.

26) Hall, op. cit., p. 449.

27) Mackey, op. cit., p.120.

28) Leonard Newmark and David Reibel, "Necessity and Sufficiency in Language Learning," IRAL, Vol. 6, No. 2, 1968, p. 155.

29) Lenneberg, op. cit.

30) Langacker, op. cit., p. 14.

31) Dwight Bolinger, Aspects of Language (New York: Harcourt, Brace & World, 1968), p. 293.

32) Saporta, op. cit.

33) See Emmon Bach, "On Some Recurrent Types of Transformations," LL, Vol. 17, Nos. 1-2, 1967, p. 25. "Various unrelated and related languages seem to exhibit the same component transformations. The differences appear in the particular selections made in the obligatory or optional character of the transformations and in the further special rules...."

34) Noam Chomsky, "Linguistic Theory." In Robert Mead (ed.) Northeast Conference on Teaching of Foreign Languages, 1966, pp. 43-49.

35) John T. Lamendella, "On the Irrelevance of Transformational Grammar to Second Language Pedagogy," LL, Vol. 19, Nos. 3-4, 1969, pp. 250-270.

36) Jakobovits, op. cit. Jakobovits means "transformation exercises" by "exercises dealing with the competence involved in deep structure." (p.106)

37) Grant T. Brown, "In Defense of Pattern Practice." LL, Vol. 19, No. 3-4, 1969, pp.191-203. Concerning the phenomenon of interference, Newmark (op. cit., p.225) says that the interference results from the student's inability to produce correct forms in the second language, so the cure for interference is simply the cure for ignorance: learning. He went so far as to say that there is no particular need to combat the intrusion of the learner's native language.

38) James W. Ney, "Transformational-Generative Theories of Language and the Role of Conditioning in Language Learning," LL, Vol. 21, No. 1, 1971, p. 63.

39) Newmark and Reibel, op. cit.

40) John W. Oller, Jr., "Language Use and Foreign Language Learning," IRAL, Vol. 7, No. 2, 1969, p.166.

41) Bernard Spolsky, "Attitudinal Aspects of Second-Language Learning," LL, Vol. 19, Nos. 3-4, 1969, p.271.

42) T. Kandiah, "The Transformational Challenge and the Teacher of English," LL, Vol. 20, No. 2, 1970, p. 164.

43) Robert L. Politzer, "In Investigation of the Order of Presentation of Foreign Language Grammar Drills in Relation to Their Education," US Dept. of HEW, 1967.

44) James Deese, op. cit., p. 117.

45) John W. Oller, Jr. and Seid M. Ziahossein, LL, Vol. 20, No. 2, 1970, pp.185-186. The strong version assumes that knowledge of the native language will inhibit learning of the target language, and that this interference will be greatest at the points of greatest differences. The weak version assumes that knowledge of the native language will not inhibit learning of the target language but that the greatest difficulty will occur where the greatest difference exists. A moderate version assumes that wherever patterns are minimally distinct in form or meaning in one or more systems, confusion may result. Conversely, where patterns are functionally or perceptually equivalent in a system or systems correct generalization may occur.

46) Brooks, op. cit., 146.

47) Wilga Rivers, Teaching Foreign-Language Skills (Chicago: University of Chicago Press, 1968), p. 46.

48) John W. Oller, Jr. and Dean H. Obrecht, "Pattern Drill and Communicative Activity: A Psycholinguistic Experiment," IRAL, Vol. 6, No. 2, 1968, p. 168.

49) Langacker, op. cit., pp. 238-239.

50) Wallace E. Lambert, "Psychological Approaches to the Study of Language, "MLJ, Vol. 47, 1963. "The orientation is 'instrumental' in form if the purpose of language study reflects the more utilitarian value of linguistic achievement, such as getting ahead in one's occupation, and is 'integrative' if the student is oriented to learn more about the other cultural community as if he desired to become a potential member of the other group."

51) Spolsky, op. cit., p. 48.

52) Rivers (1968), op. cit., p. 48.

53) Robert Politzer, "Toward Individualization in Foreign Language Teaching," MLJ, Vol. 55, No. 4, 1971, p. 208.